

CLAIMS

What is claimed is:

1. A power source switching unit for supplying electric power to computer loads by an external power source and a plurality of batteries, comprising:

an external power circuit to supply electric power from the external power source to the computer loads;

a detector to detect loss of the electric power supplied from the external power circuit;

a plurality of battery power supply circuits to supply electric power from the plurality of batteries to the computer loads;

a charging device to charge at least one of the plurality of batteries with the electric power supplied from the external power circuit;

a switching device to switch the battery power supply circuit to supply electric power from at least one of the plurality of battery power supply circuits to the computer loads within a predetermined time in response to the detector, while the charging device is charging the at least one of the plurality of batteries and also supplying electric power from the external power source to the computer loads; and

22 a temporary power supply device to supply electric
23 power to the computer loads only for at least the
 predetermined time in response to the detector.

1 2. The power source switching unit according to claim
2 1, further comprising a plurality of switches
3 respectively connected to the plurality of battery power
4 supply circuits, wherein electric power is supplied to
5 computer loads by switching on the switch when a battery
6 corresponding to the battery power supply circuit is
7 charged.

1 3. The power source switching unit according to claim
2 1, further comprising a plurality of switches
3 respectively connected to the plurality of battery power
4 supply circuits, wherein electric power is supplied to
5 computer loads when electric power is supplied from the
6 corresponding battery to the computer loads.

1 4. The power source switching unit according to claim
2 1, further comprising a plurality of switches
3 respectively connected to the plurality of battery power
4 supply circuits, wherein electric power is supplied to
5 computer loads by switching on at least one of the
6 plurality of switches which corresponds to a battery
7 capable of supplying electric power within the
8 predetermined time when responding to the detector.

1 5. The power source switching unit according to Claim
2 1, further comprising a plurality of switches
3 respectively connected to the plurality of battery power
4 supply circuits, wherein electric power is supplied to

5 computer loads by switching on the switch when a battery
6 corresponding to the battery power supply circuit is
7 charged.

1 6. The power source switching unit according to Claim
2 1, further comprising a plurality of switches
3 respectively connected to the plurality of battery-power
4 supply circuits, wherein electric power is supplied to
5 computer loads when electric power is supplied from the
6 corresponding battery to the computer loads.

7 7. The power source switching unit according to Claim
1 1, further comprising a plurality of switches
2 respectively connected to the plurality of battery power
3 supply circuits, wherein electric power is supplied to
4 computer loads by switching on all of the plurality of
5 switches within the predetermined time when responding to
6 the detector.

3 8. The power source switching unit according to Claim
1 2, further comprising a switching control device to
2 control the plurality of switches.

1 9. The power source switching unit according to Claim 1
2 wherein at least one of the plurality of batteries is a
3 fixed battery to supply electric power independent of the
4 electric power supplied from the external power source.

1 10. A power source switching unit for supplying electric
2 power to computer loads by an external power source and a
3 plurality of batteries, comprising:

4 an input terminal connected to the external power
5 source;

6 an output terminal connected to the computer loads;

7 an external power circuit connected to the input and
8 output terminals;

9 a detector, connected to the external power circuit,
10 for detecting loss of electric power supplied from the
11 external power circuit;

12 a plurality of battery power supply circuits that
13 include both input terminals to which the batteries are
14 connected and a plurality of first switches connected to
15 the input terminals;

16 charging devices connected to both the external
17 power circuit and the plurality of first switches;

18 a second switch connected to both the external power
19 circuit and the plurality of first switches;

20 a temporary power supply device, connected to the
21 external power circuit, for supplying electric power to
22 the computer loads only for at least a predetermined time
23 in response to the detector; and

24 a switching control device for switching the
25 plurality of first switches and the second switch to
26 supply electric power from at least one of the plurality
27 of battery power supply circuits to the computer loads
28 within a predetermined time in response to the detector,
29 while the charging device is charging the at least one of
30 the plurality of batteries and also supplying electric
31 power from the external power source to the computer
32 loads.

1 11. The power source switching unit according to Claim
2 10, wherein the first and second switches are field
3 effect transistors.

1 12. A power source switching unit for supplying electric
2 power to computer loads by an external power source and a
3 plurality of batteries, comprising:

4 an external power unit for supplying electric power
5 from the external power source to the computer loads;

6 a detector for detecting loss of the electric power
7 supplied from the external power circuit;

8 a plurality of battery power supply units for
9 supplying electric power from the plurality of batteries
10 to the computer loads;

11 a charger for charging at least one of the plurality
12 of batteries with the electric power supplied from the
13 external power unit;

14 a switch for switching the battery power supply
15 units to supply electric power from at least one of the
16 plurality of battery power supply units to the computer
17 loads within a predetermined time in response to the
18 detector, while the charger is charging the at least one
19 of the plurality of batteries and also supplying electric
20 power from the external power source to the computer
21 loads; and

22 a temporary power supply unit for supplying electric
23 power to the computer loads only for at least the
24 predetermined time in response to the detector

